S/M No. :

Service Manual

Auto Washer

Model: DWF-190SL

✔ **Caution**

: In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service Information Center (http://svc.dwe.co.kr).

DAEWOO ELECTRONICS

Jun. 2013

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1. SPECIFICATIONS

No.	ITEM		DWF-190SL	
1	POWER SOURCE		A.C 220V/50Hz , A.C 220V/60Hz	
2	POWER CONSUMPTION		530W	
3	WEIGHT		43kg(net) /47kg(GLASS)	
4	DIMENSION (WxHxD)		630 x 1004 x 670 mm	
5	WASHING COURSE		FULL AUTOMATIC 6 COURSES (FUZZY, BLANKET, ECONOMY, BABY CARE, SPORTS WEAR, DELICATE)	
6	WATER CONSUMPTION		185 ℓ	
7	WATER LEVEL SELECTOR	HIGH	91 ℓ	
		MED	82 ℓ	
		LOW	69 ℓ	
		SMALL	56 ℓ	
8	OPERATING WATER PRESSURE		0.03MPa ~ 0.8MPa (0.3kgf/cm² ~ 8kgf/cm² = 2.94N/cm² ~ 78.4N/cm²)	
9	REVOLUTION PER MINUTE	WASH	130~150 rpm(60Hz) / 125~140 rpm(50Hz)	
		SPIN	710~740 rpm(60Hz) / 640~675 rpm(50Hz)	
10	PULSATOR		TORNADO PULSATOR	
11	WATER LEVEL CONTROL		ELECTRONIC SENSING	
12	AUTOMATIC WATER SUPPLY		O	
13	GEAR MECHANISM ASS'Y		HELICAL GEAR	
14	LINT FILTER		1~2 (OPTION)	
15	AUTOMATIC SOFTENER INPUT		O	
16	FUNCTION FOR TIME DELAY (RESERVATION)		O (OPTION)	
17	DISPLAY OF RESIDUAL TIME		O	
18	FUNCTION FOR BUBBLE		O (OPTION)	
19	DRAIN TYPE		PUMP	
20	AUTOMATIC POWER OFF		O	
21	DOOR TYPE (TRANSPARENT)		PLASTIC DOOR (TRANSPARENT,OPAQUE)	GLASS DOOR(TRANSPARENT)

NOTES

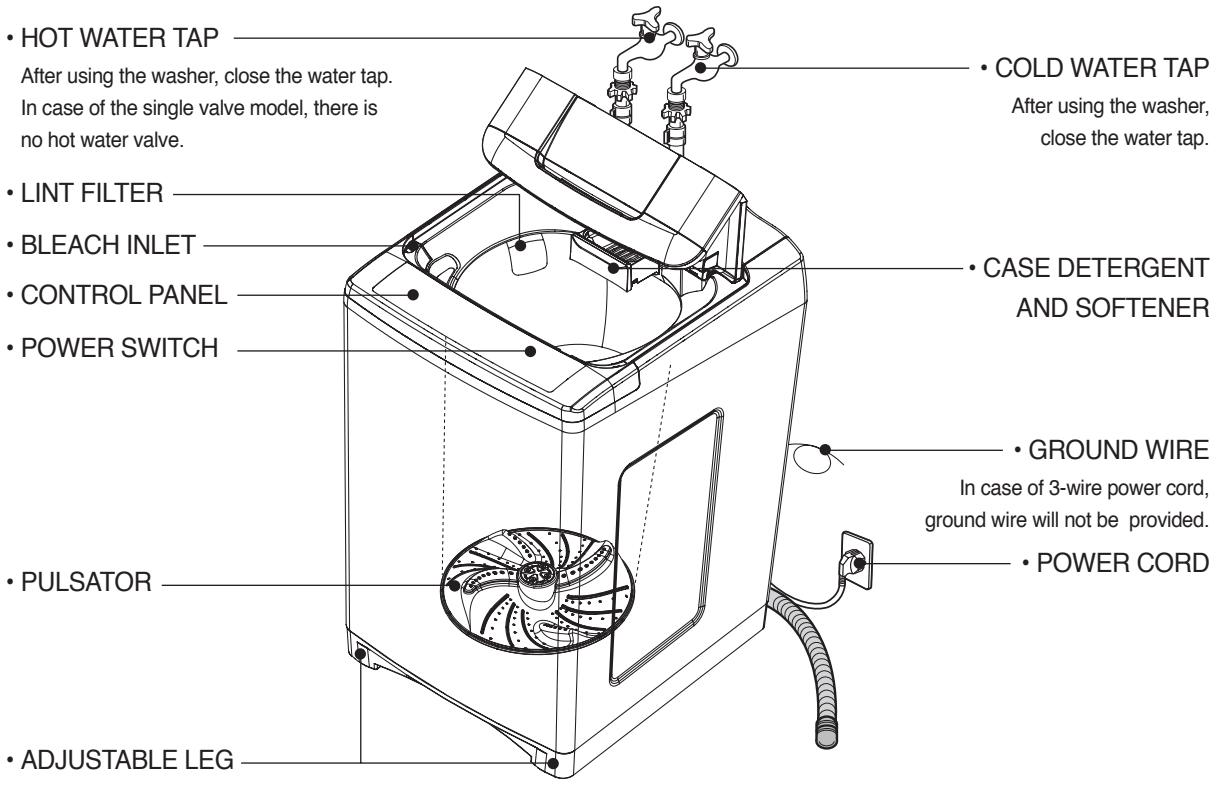
In case of moving Washing Machine, please follow the following picture.

2. STRUCTURE OF THE WASHING MACHINE

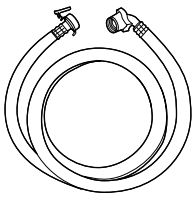
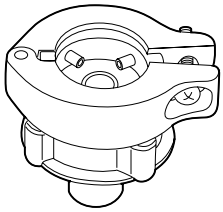
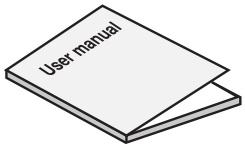
The parts and features of your washer are illustrated on this page.
Become familiar with all parts and features before using your washer.

NOTE

- The drawings in this book may vary from your washer model.
  They are designed to show the different features of all models covered by this book. Your model may not include all features.


• HOT WATER TAP
After using the washer, close the water tap.
In case of the single valve model, there is no hot water valve.
• LINT FILTER
• BLEACH INLET
• CONTROL PANEL
• POWER SWITCH
• PULSATOR
• ADJUSTABLE LEG
• COLD WATER TAP
After using the washer, close the water tap.
• CASE DETERGENT AND SOFTENER
• GROUND WIRE
In case of 3-wire power cord, ground wire will not be provided.
• POWER CORD

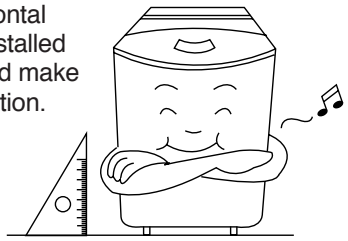
■ ACCESSORIES (FULL OPTION)

Water supply hoses (two)	Drain hose	Water hose fixer (two)	User manual
			

3. DIRECTIONS FOR INSTALLATION AND USE

INSTALLING PLACE

Install the washer on a horizontal solid floor. If the washer is installed on an unsuitable floor, it could make considerable noise and vibration.



Keep the machine body more than 25cm apart from the wall surface. It will make easy cleaning the drain filter which is equipped at the back side of it. And if it comes into contract vibration may occur.

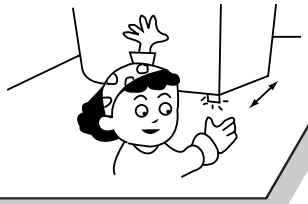
Never install in these places

- The place where it would be exposed to direct sunlight.
- The place nearby a heater or heat appliance.
- The place where it would be supposed to be frozen in winter.
- The kitchen with coal gas and a damp place like a bathroom.

How To Install On An Inclined Place

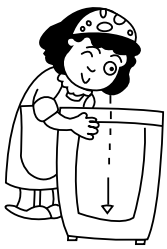
1 Horizon Setting

After controlling the height by turning the adjustable leg, let the washer put down to the ground.



2 Check the Horizon Status

Check the position of tub above the center of the washer.



NOTES

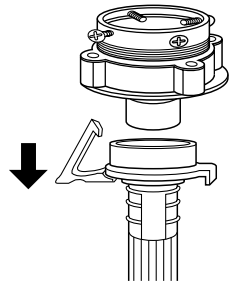
The openings must not be obstructed by carpeting when the washing machine is installed on a carpeted floor.

How to Connect the Inlet Hose

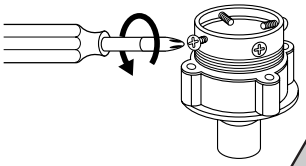
Be careful not to mistake in supplying between the hot(maximum : 50˚C) and cold water.
In using only one water tap or in case of attached one water inlet valve, connect the inlet hose to the cold water inlet valve.
Do not over tighten : This could cause damage to couplings.

• • • • FOR ORDINARY TAP

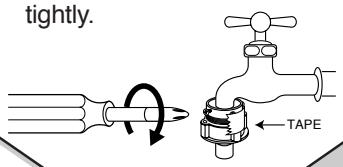
1 Pull down the collar of the inlet hose to separate it from the water tap adapter.



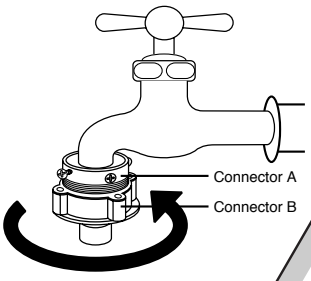
2 Loosen the four screws at the water tap adapter, but don't loosen the screws until they are separated from the water tap adapter.



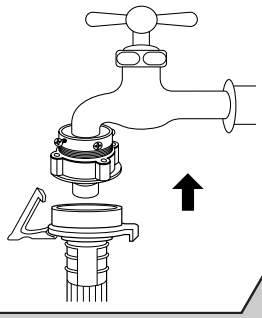
3 Connect the water tap adapter to the water tap and tighten the four screws evenly with pushing up the adapter so that the rubber packing can stick to the water tap tightly.



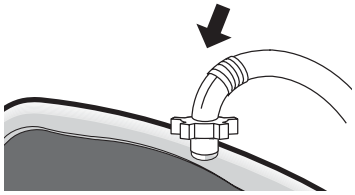
4 Remove the tape, and screw connector B into connector A tightly.



5 Connect the inlet hose to the water tap adapter by pulling down the collar of the hose end.



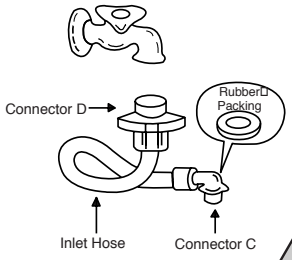
6 Connect the inlet hose adapter to the water inlet of the washer by turning it clockwise to be fixed tightly.



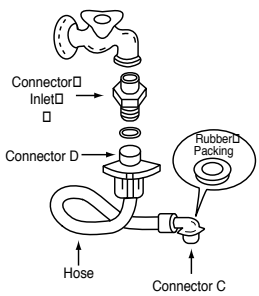
• Please check the rubber packing inside the inlet hose adapter.

• • • • FOR SCREW-SHAPED TAP

1 Connect the inlet hose to the water tap by screwing the connector D tightly.



2 Connect the connector-inlet supplied if necessary.



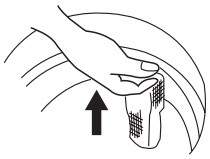
3 Insert the inlet hose adapter into the water inlet of a washer and turn it to be fixed.

• Check the packing in the inlet.

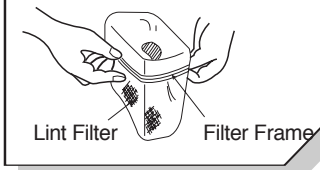
• • • • CLEANING THE LINT FILTER

• This washer has two Lint Filters in the top TUB in order to filter off lint and fuzz.

1 Pull the Filter frame upward.



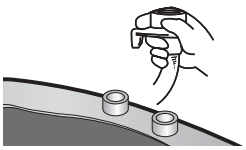
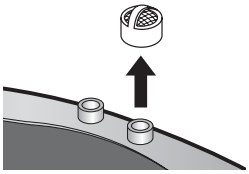
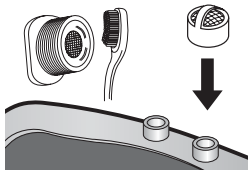
2 Turn the lint filter inside out, wash to the lint off with water.



3 Return the filter as it was, and insert the filter frame into the slot.

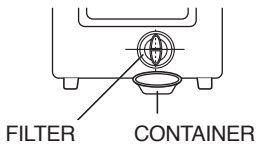
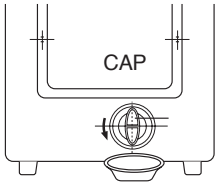
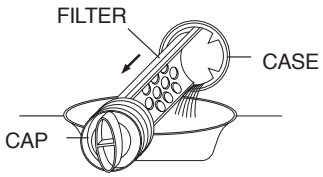
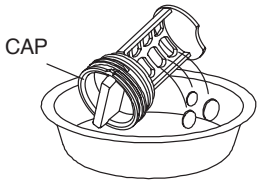
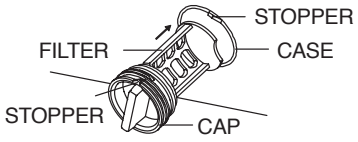
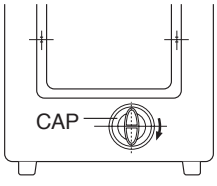
• • • • CLEANING THE WATER INLET FILTER

• Clean the filter when water leaks from the water inlet.

① Pull the power plug out before cleaning it.	② Turn off the water supply to the washer and separate the inlet hose. 	③ Pull the inlet filter out. 	④ Remove the dirt from the inlet filter with a brush. 

• • • • CLEANING THE DRAIN FILTER

• In case “Pump-Model” drain hose, this filter’s equipped at the back side of washer.
• This drain filter is to screen the foreign stuffs such as threads, coins, pins, buttons, etc.
• If the drain filter is not cleaned at proper time (every 10 times of use), Drain problem could be caused.

① Put down the remained water in the hose. And put a container under the filter to collect water. 	② Turn the cap counter clockwise. 	③ Pull out the filter assembly off the case. 
④ Clean the drain filter removing the foreign stuffs. 	⑤ Put the filter into the case. And turn the cap to adjust the prominence of the filter to the hole of the case. 	⑥ Turn the cap clockwise tightly. 

Feature of the Washing Machine

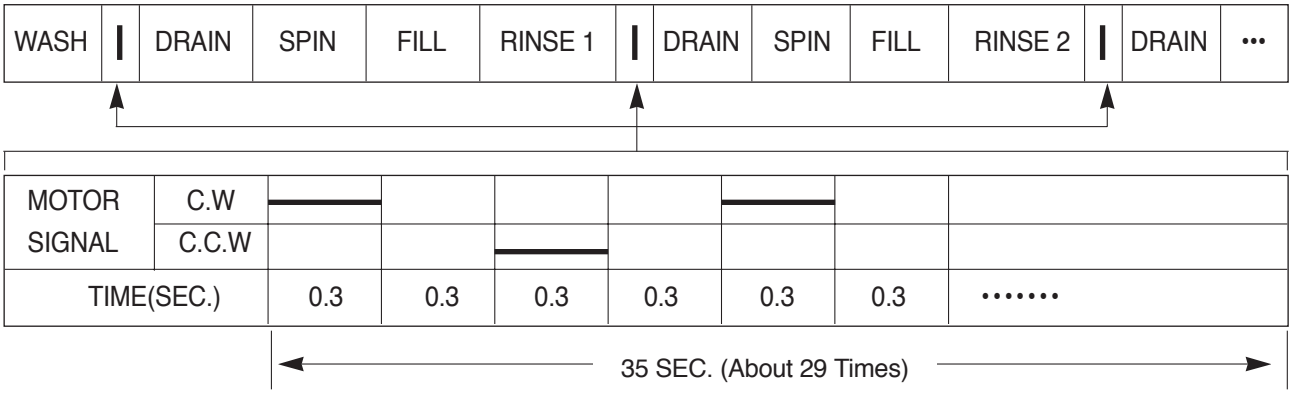
1 First applying the Radical Technology in the world ... go beyond washing, sterilize your clothes and deodorize a bad smell(Option).
2 The first air bubble washing system in the world.
3 Quiet washing through the innovational low-noise design.
4 Improving washing performance by more than 35%, while reducing power consumption by 40%.
5 The laundry detergent dissolves well in water because of the air bubble washing system.
6 The adoption of the water currents to adjust the unbalanced load.
7 One-touch operation system.

Water Current to Adjust the Unbalanced Load

It is a function to prevent eccentricity of the clothes after wash by rotating pulsator C.W and C.C.W for 35 seconds.(But, the DELICATE course have no operation of the water currents to adjust the unbalanced load.)

EFFECT
It reduces vibration and noise effectively while spinning.

WATER FLOW

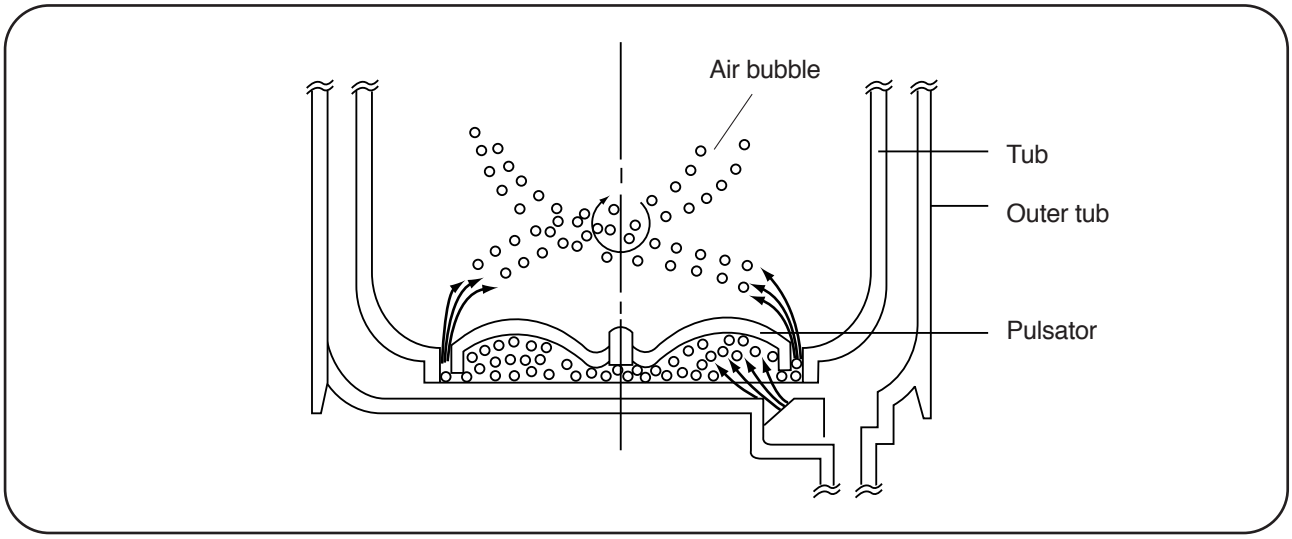


Automatic Water Supply System for Blanket Wash

The water level would be lowered because the blanket absorbs water at the beginning of washing. Therefore, after 2 minutes, the operation is interrupted to check the water level, and then the water is supplied again until the selected water level is reached.

Functional Principle of Bubble Washing Machine

ACROSS SECTION



FUNCTIONAL PRINCIPLE

Bubble Motor supplies the air from the bottom of outer tub to the inner space of pulsator, the air is dispersed by the rotation of pulsator. Air-bubble is created by the centrifugal force, and rises up.

Automatic Drainning time Adjustment

This system adjusts the draining time automatically according to the draining condition.

Draining condition	Good draining	The washer begins spin process after drainage.
	Bad draining	Draining time is prolonged.
	No draining	Program is stopped and gives the alarm.

FUNCTIONAL PRINCIPLE

1. The micom can remember the time(D) from the begining of drain to reset point when the pressure switch reaches to “OFF” point

Drain Time	Movement of the Program
Less than 15 minutes	Continue draining.
More than 15 minutes	Program stops and gives the alarm with **dE** blinked on display lamp.

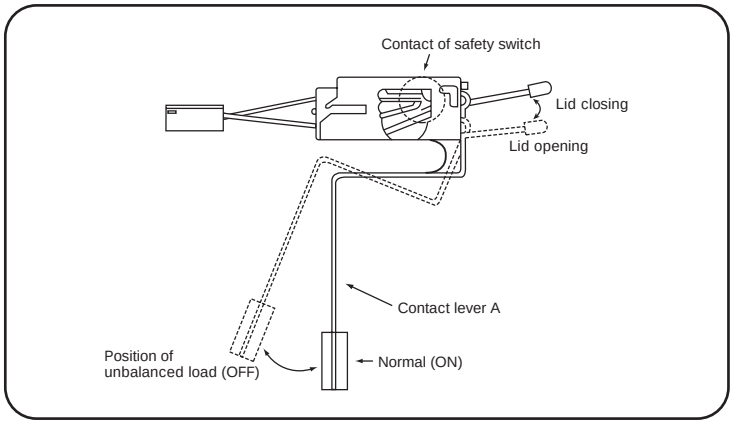
2. In case of continuous draining, residual drain time is determined by micom.
   Draining time as a whole = D + 90
   - 90 — Residual drain time.
   - D — The time remembered by micom.

Automatic Unbalance Adjustment

This system is to prevent abnormal vibration during intermittent spin and spin process.

FUNCTIONAL PRINCIPLE

1. When the lid is closed, the contact lever A of the safety switch is “ON” position.
2. In case that wash loads get uneven during spin, the outer tub hits the safety switch due to the serious vibration, and the spin process is interrupted.
3. In case that P.C.B. ASS’Y gets “OFF” signal from the safety switch, spin process is stopped and rinse process is started automatically.
4. If the safety switch is operated due to the unbalance of the tub, the program is stopped and the alarm is given.



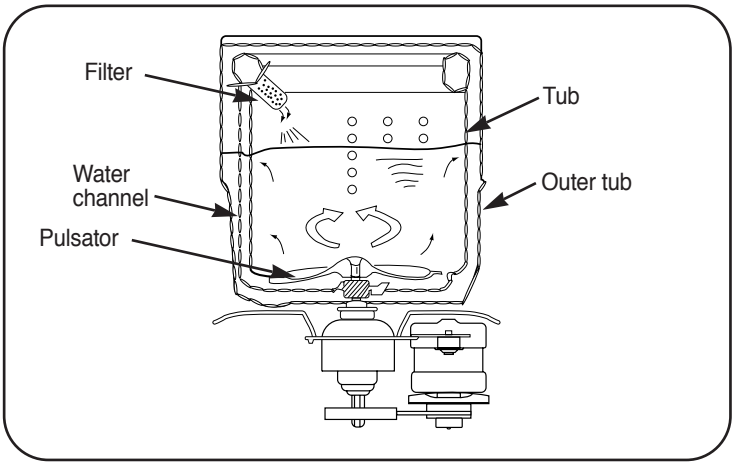
NOTES

The alarm finished when you close the lid after opening it. Check the unbalance of the wash load and the installation condition.

Circulating-Water Course and Lint Filter

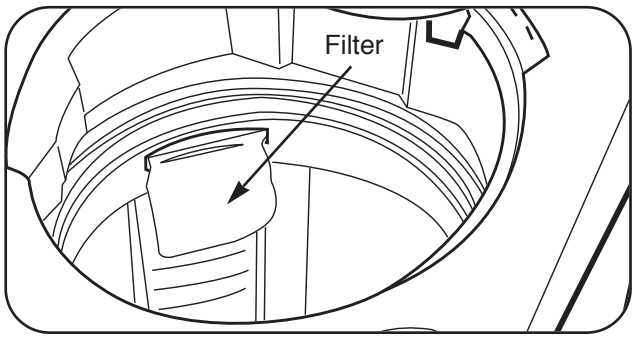
CIRCULATING-WATER

The washing and rinsing effects have been improved by adopting the water system in which water in the tub is circulated in a designed pattern.
When the pulsator rotates during the washing or rinsing process, the water below the pulsator fans creates a water currents as shown in figure.
The water is then discharged from the upper part of the tub through the water channel.
About 40 L/min. water is circulated at the ‘high’ water level, standard wash load and standard water currents.



Lint Filter

Much lint may be obtained according to the kind of clothes to be washed and some of the lint may also stick to the clothes.
To minimize this possibility a lint filter is provided on the upper part of the tub to filter the wash water as it is discharged from the water channel. It is good to use the lint filter during washing.



HOW TO REPLACE LINT FILTER

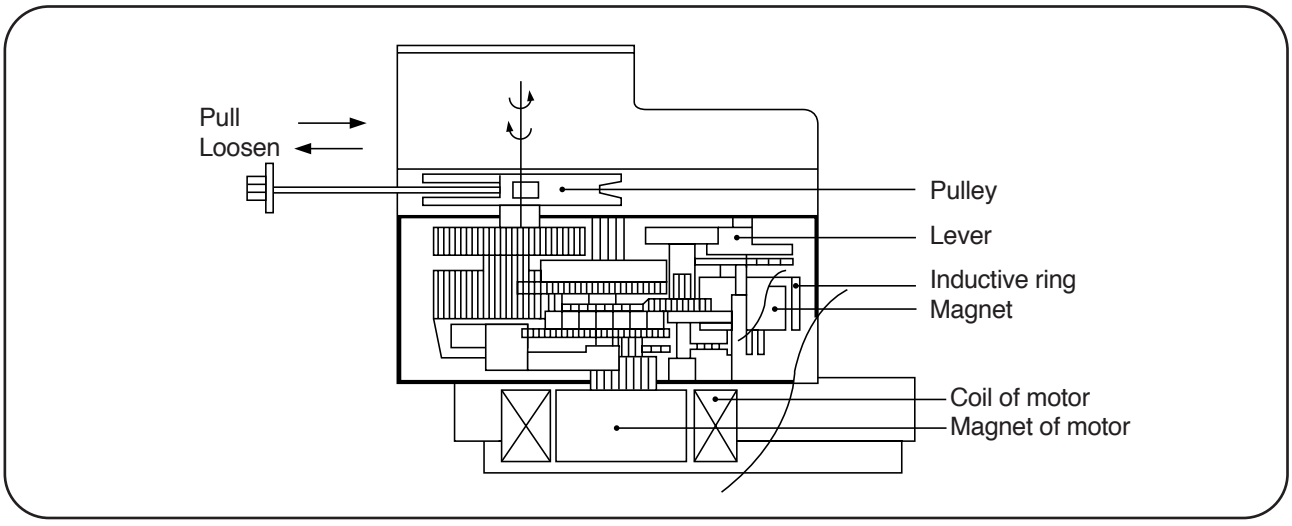
1. Pull the filter frame upward.
2. Turn the lint filter inside out, and wash the lint off with water.
3. Return the filter as it was, and fix the filter frame to the slot.

Residual Time Display

When the START/HOLD button is pressed, the residual time (min.) is displayed on the time indicator, and it will be counted down according to process.
When operation is finished, the TIME INDICATOR will light up .

Drain Motor

STRUCTURE

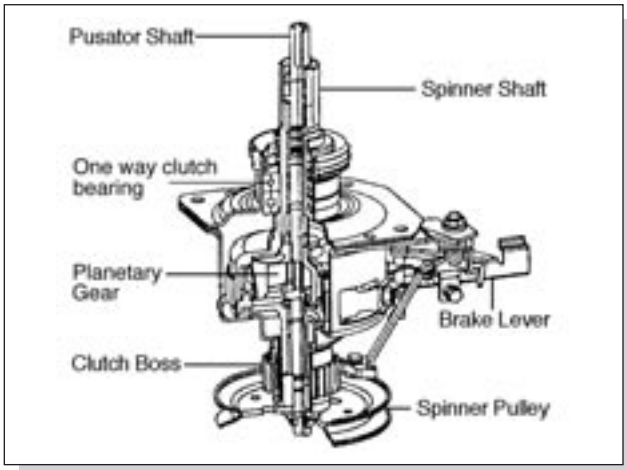


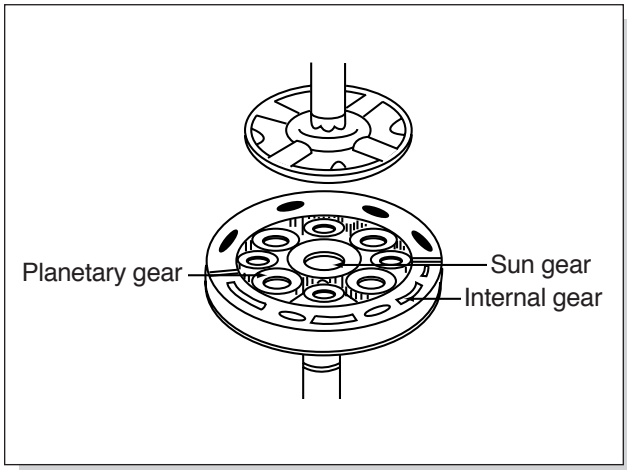
FUNCTIONAL PRINCIPLE

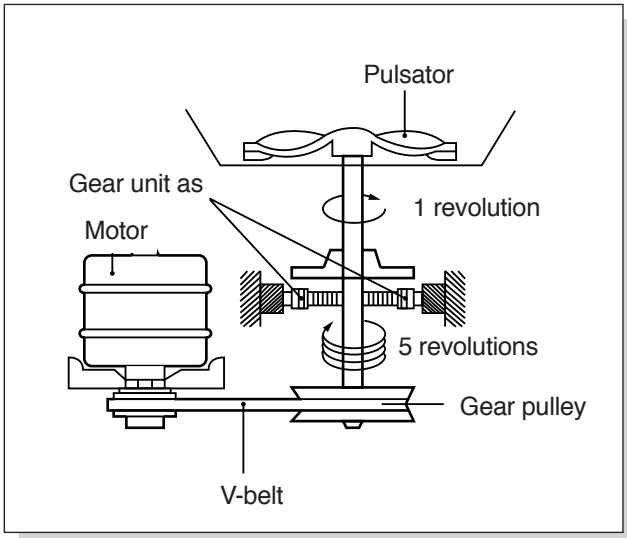
1. When the DRAIN MOTOR connected to the power source, the DRAIN MOTOR rotates with 900 r.p.m and revolves the pulley by gear assembly for reducing.
2. When the pulley is rotated, the pulley winds the wire to open the drain valve.
3. Therefore, rotation of pulley changed to the linear moving of wire.
4. The wire pulls the brake lever of Gear Mechanism Ass'y within 5 seconds.
5. After the wire pulled, gear assembly is separated from motor and condition of pulling is held by operation of the lever.
6. When the power is turned off, the drain valve is closed because the wire returns to original position.

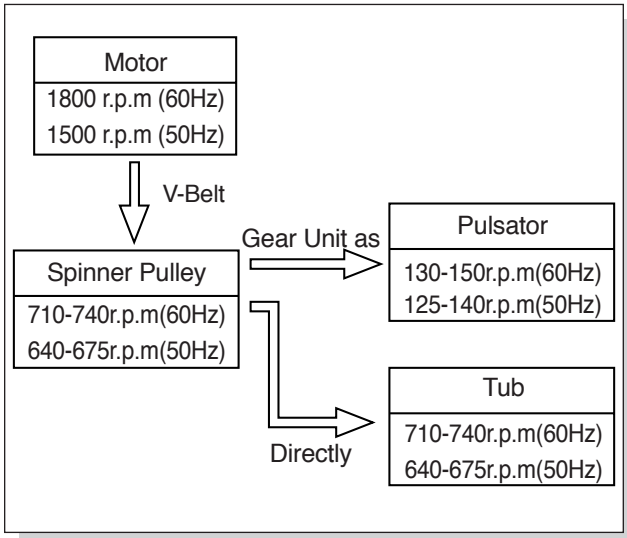
Gear Mechanism Ass'y

The proper water currents is made by the rotation of pulsator at a low speed to prevent the damage to the small sized clothes.









5. DIRECTIONS FOR DISASSEMBLY AND ADJUSTMENT

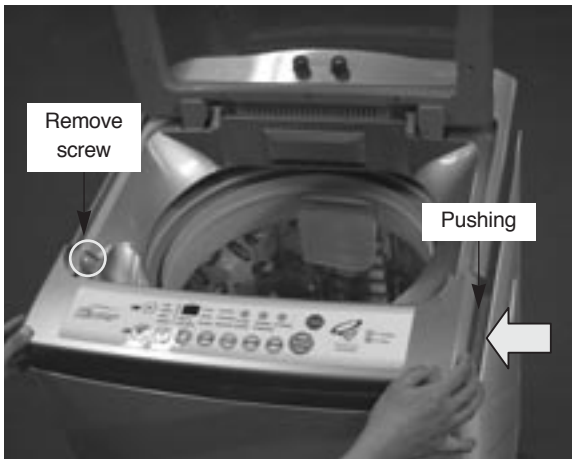
Warning

BEFORE ATTEMPTING TO SERVICE OR ADJUST ANY PART OF THE WASHING MACHINE, DISCONNECT THE POWER CORD FROM THE ELECTRIC OUTLET.

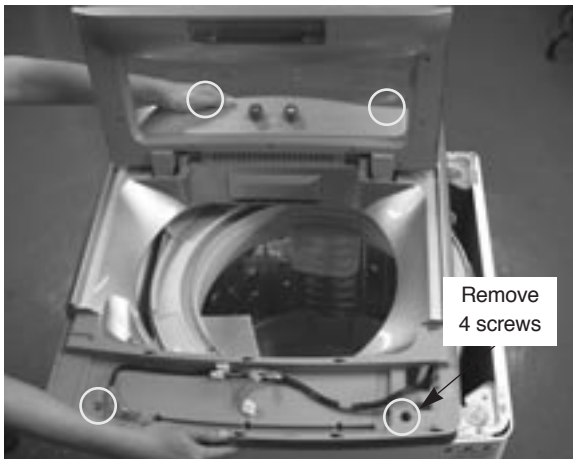
Gear Mechanism Ass'y Replacement

GEAR MECHANISM ASS'Y REPLACEMENT

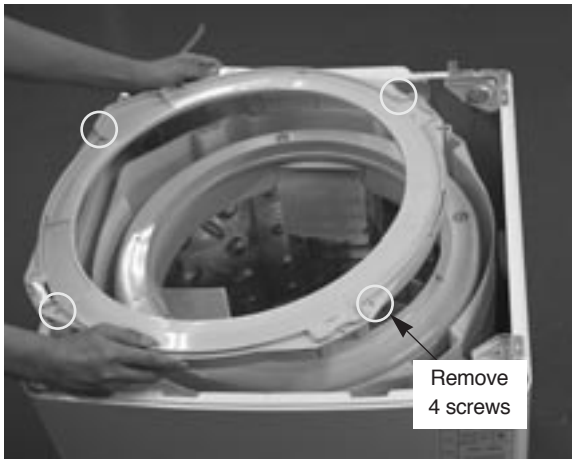
① Remove 1 screw from the PANEL F.
② Separate PANEL F by pushing PANEL F washing to the right.



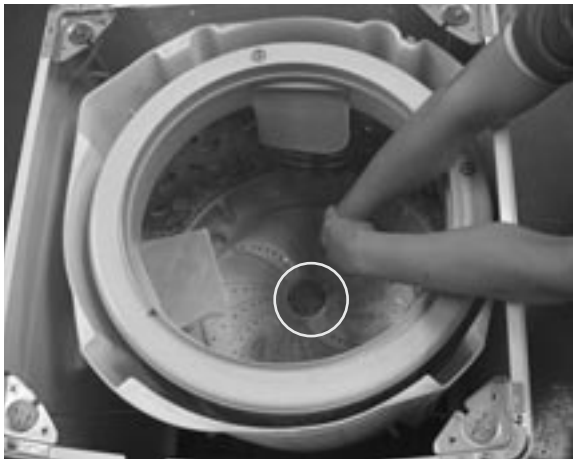
③ Remove 4 screws and separate PLATE T from washing machine.



④ Remove 4 screws and separates COVER TUB from TUB ass'y.



⑥ Remove CAP PULSATOR form PULSATOR using screw driver.

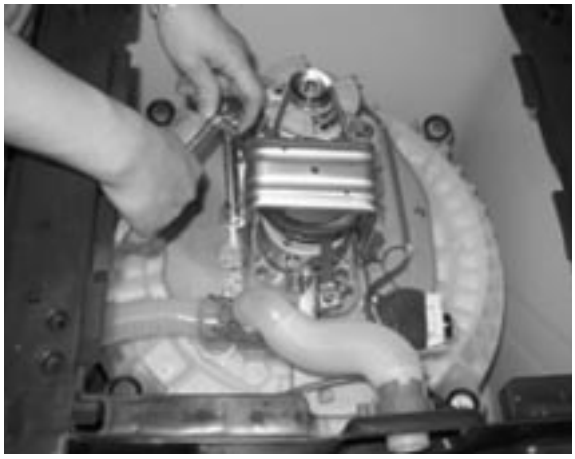


⑥ Unscrew PULSATOR mounting screw and separates PULSATOR form TUB ass'y.

⑦ Unscrew special nut using 'T' type box wrench.

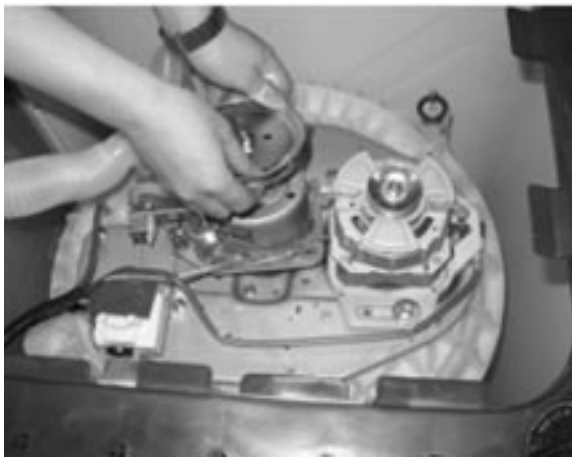
⑧ Separate TUB I from TUB ass'y.

⑨ Lay the top of the washing machine on the floor.
⑩ Unscrew 4 special bolts of GEAR PROTECT using a box wrench and separate GEAR PROTECT .



⑪ Unscrew 4 special bolts of GEAR MECHANISM using a box wrench.

⑫ Separate GEAR MECHANISM and BELT V.

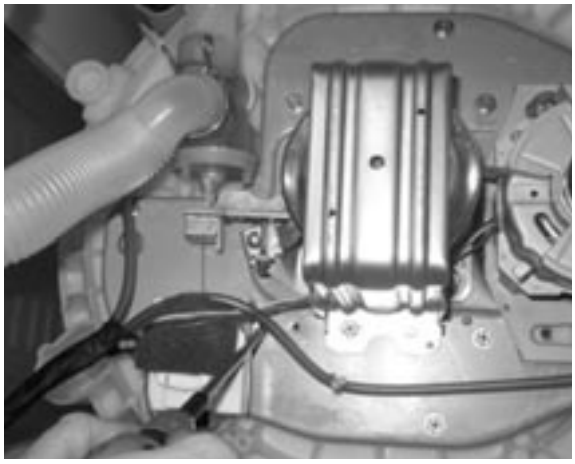


NOTES

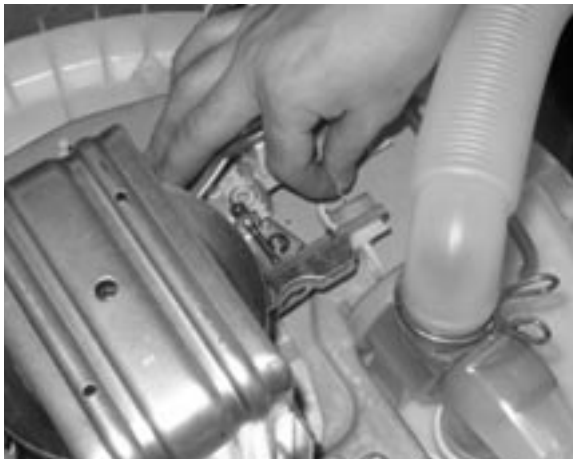
To assemble the gear mechanism ass'y, reverse the disassembly procedure.

MOTOR DRAIN AND VALVE REPLACEMENT (NON PUMP MODEL)

① Lay the top of the washing machine on the floor.
② Unscrew 2 special bolts mounting MOTOR DRAIN.

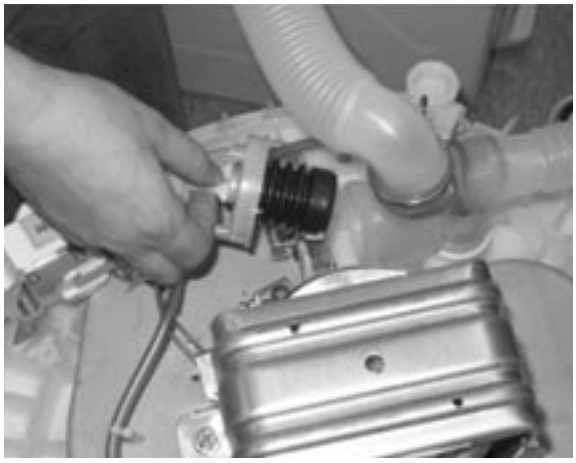


③ Take out the wire of MOTOR DRAIN.
④ Separate MOTOR DRAIN from BASE.

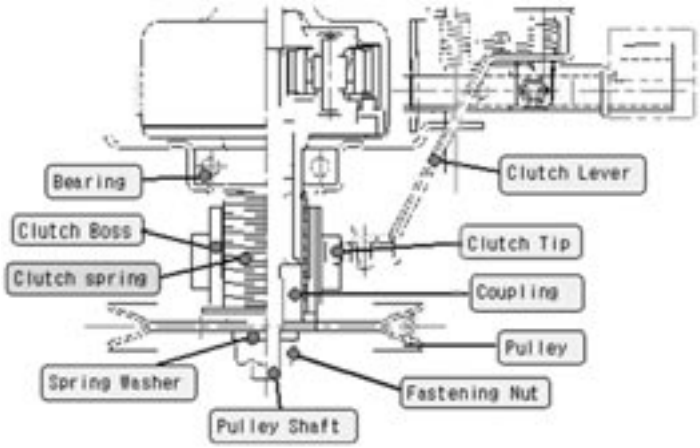


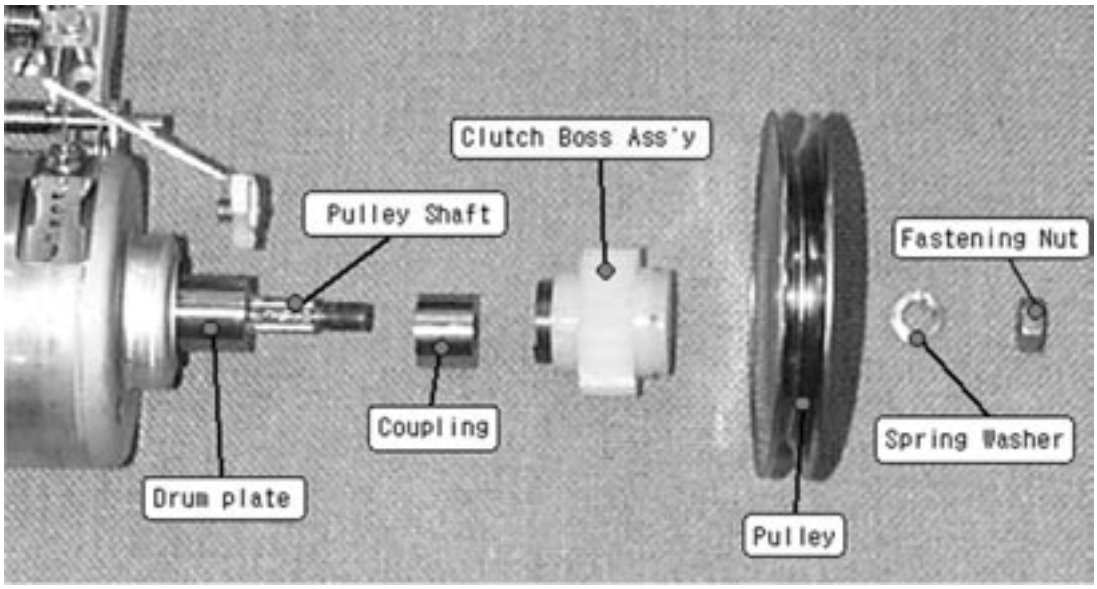
⑤ Turn the valve using screw driver as shown picture.

⑥ Separate the valve lid from VALVE DRAIN ass'y.

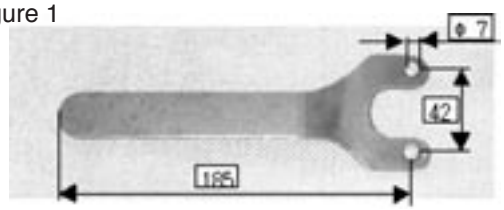


The structure of gear mechanism





●TOOL FOR REPLACING THE CLUTCH BOSS ASSEMBLY●

Tool name	Specification	Q'ty
Fixing jig	Figure 1 	1
Ratchet handle		1
Socket and extension bar	socket : 10mm, 17mm	per each
Cotton yarn		some

How to check the clutch spring problem

CHECKING METHOD

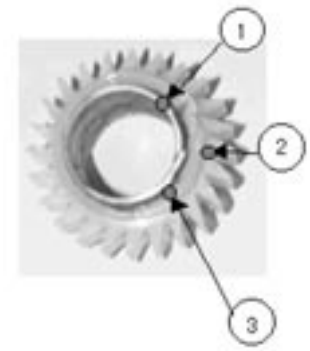
IN THIS CASE, YOU MUST EMPTY THE SPIN TUB FIRST.

1) TO CHECK THE REVOLUTION OF SPIN TUB.
   IF THE SPIN TUB DOES NOT REVOLVE AND ONLY THE PULSATOR IS TURNING, THAT IS CLUTCH SPRING DEFECT.

2) TO CHECK THE SPIN SPEED(RPM) BETWEEN SPIN TUB AND PULSATOR.
   IF YOU FIND THE DIFFERENT SPIN SPEED BETWEEN SPIN TUB AND PULSATOR, THIS IS ALSO CLUTCH SPRING DEFECT.

   IN THIS CASE, WE ARE GOING TO SUPPLY THE CLUTCH BOSS ASSEMBLY INSTEAD OF GEAR MECHANISM ASSEMBLY. PLEASE REFER TO FOLLOWING FIG.

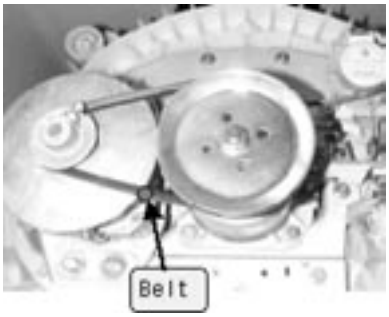
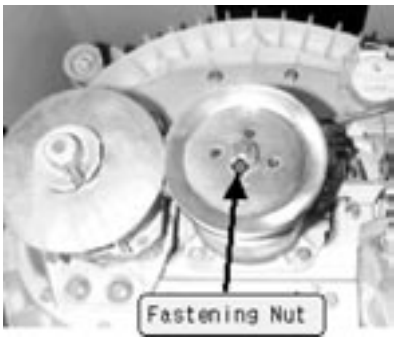
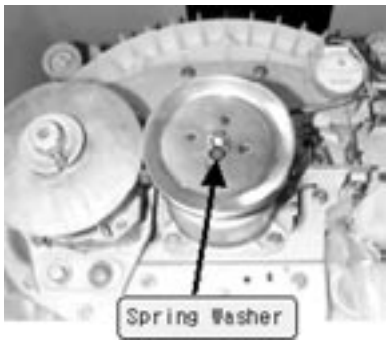
THE CLUTCH BOSS ASSEMBLY



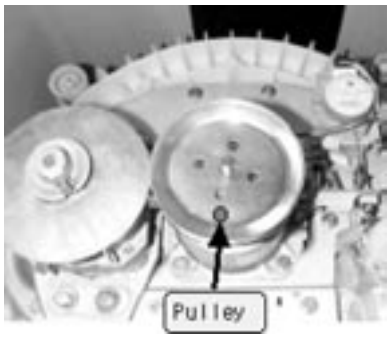
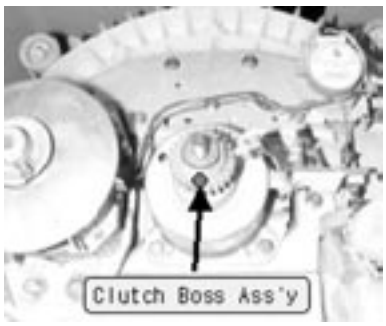
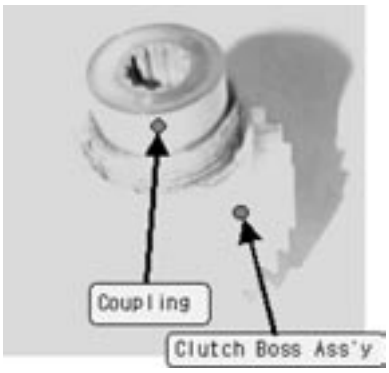
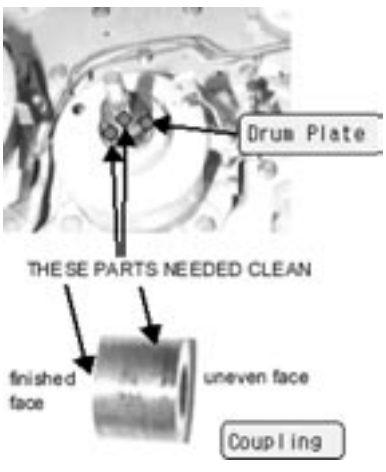
NO.	PARTS NAME	SPECIFICATION	Q'TY
1	CLUTCH SPRING	1.5*1.5	1
2	CLUTCH BOSS	PP	1
3	GREASE	beacon#325 3g	
PACKING METHOD	PACKING THE CLUTCH BOSS ASS'Y BY USING VINYL PACK		1

The Process Of Disassembling

Disassembling 1

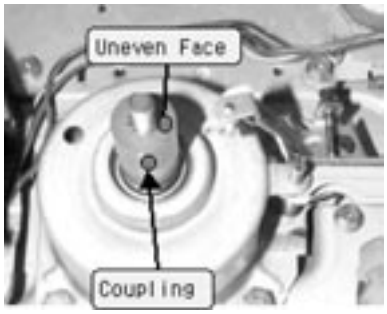
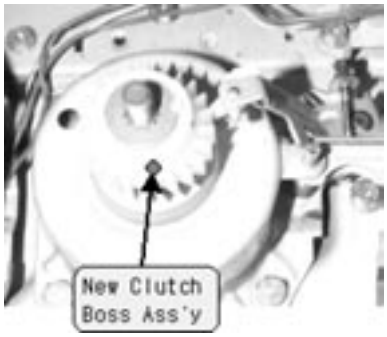
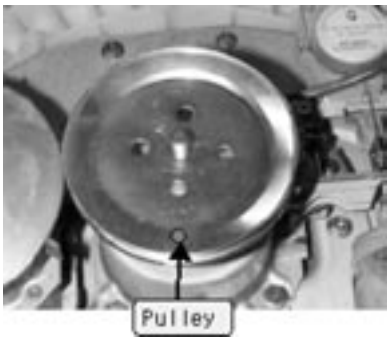
No.	Process		Notice
1	Release screws marked 4-point	Remove the protector	Use wrench or driver. - ratchet handle - extension bar - socket : 10mm
2		Remove the v-belt	
3		Loosen the fastening nut	Use fixing jig for pulley as to see fig 1. and 17mm-socket for nut.
4		Disassemble the spring washer	Take out plain washer if it has.

Disassembling 2

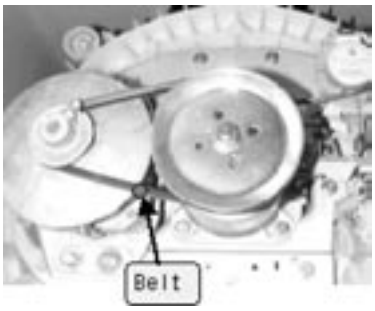
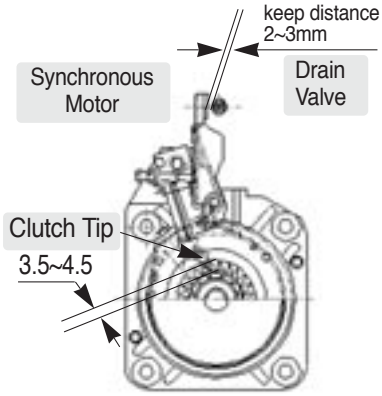
No.	Process		Notice
5		Disassemble the pulley	
6		Disassemble the clutch boss assembly	Catch the boss and pull upward with spiral rotate in the clockwise direction.
7		Separate coupling from clutch boss ass'y	
8		Cleaning	Clean the drum plate, coupling surface and contact face between drum plate and coupling. It is necessary to keep cotton piece goods being dry and clean.

The Process Of Assembling

Assembling 1

No.	Process		Notice
1		Assemble the coupling	Check the uneven face of coupling is assembled upward.
2		Assemble the new clutch boss ass'y	- Push in the clutch boss ass'y with rotating on the clockwise direction. - After assembling, rotate on the clockwise more 2~3 teeth and pull out the pulley shaft upward.
3		Assemble the pulley	
4		Assemble the spring washer	If there was plain washer, you have to assemble plain washer the first and then assemble spring washer.

Assembling 2

No.	Process		Notice
5		Assemble the fastening nut	- Use fixing jig and 17mm socket wrench as if disassembling, as fastening torque about 100~200kgf-cm. - Check the end-play, up and downward and check the binding force, too much or not on bi-direct of rotation.
6		Assemble the belt	
7		Assemble the protector	
8		Final checking	Finally, check the distance between brake lever and control bolt(2~3mm). Also, check the interference depth both clutch tip and clutch boss(3.5~4.5mm).

NOTES

1. When replace the P.C.B. ASS'Y do not scratch the surface of the P.C.B. ASS'Y.
2. Disconnect the power cord from the electric outlet.

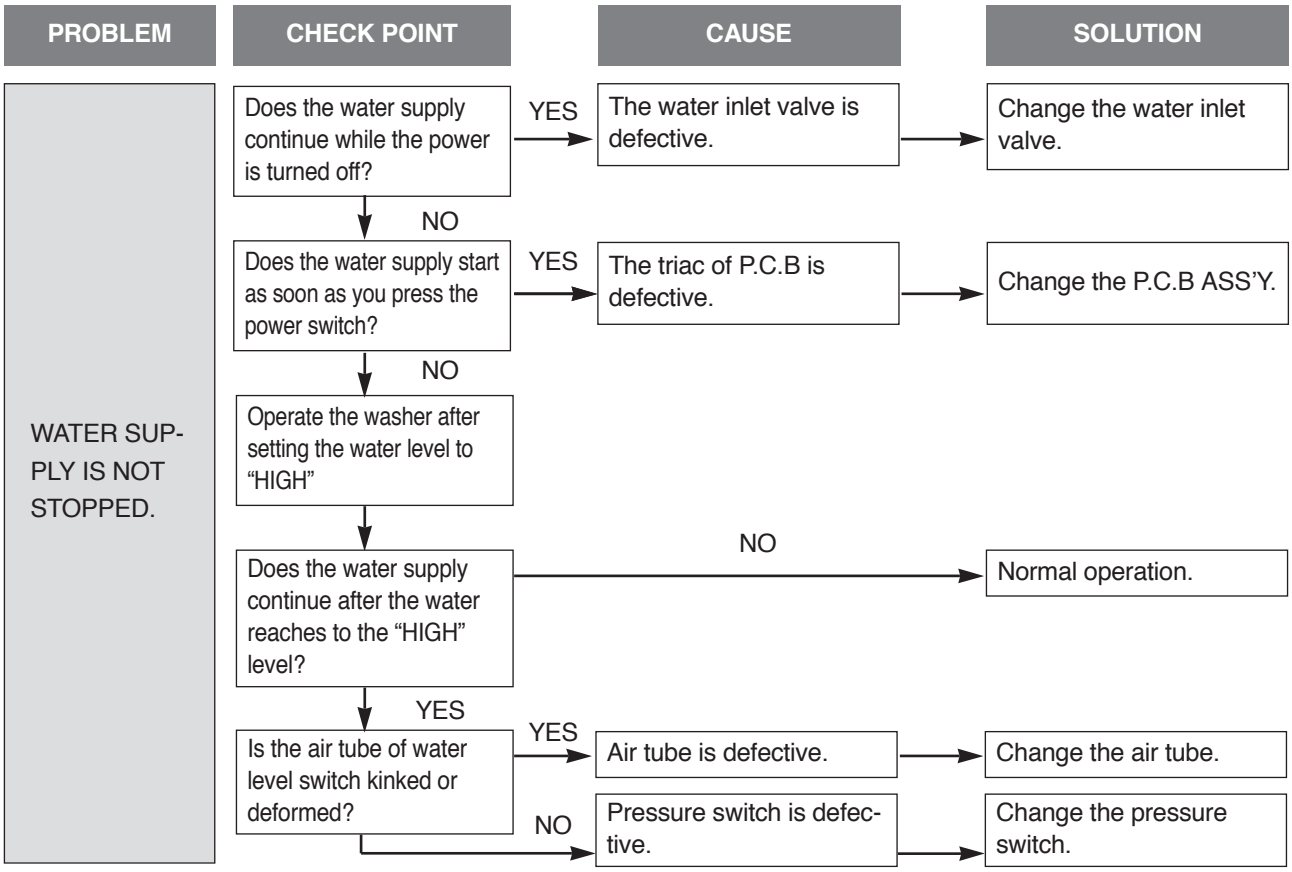
Concerning Water Supply

PROBLEM	CHECK POINT	CAUSE	SOLUTION
WATER IS NOT SUPPLIED.	Do you open the water tap?	NO	Open the water tap.
	Is the filter of the water inlet valve clogged with dirt?	YES	Clean the filter.
	Is the water pressure sufficient? (0.3~8 kgf/cm²)	NO	Increase the water pressure.
	Does the water inlet valve make operating sound?	NO	Water inlet valve is defective. → Change water inlet valve.
	Is the connector or the terminal connected properly?	NO	Improper connection of the connector or the terminal. → Connect the connector or the terminal properly.
	Is the output voltage of the P.C.B normal?	NO	P.C.B AS is defective. → Change the P.C.B AS.
		YES	Lead wire is defective. → Change the lead wires.

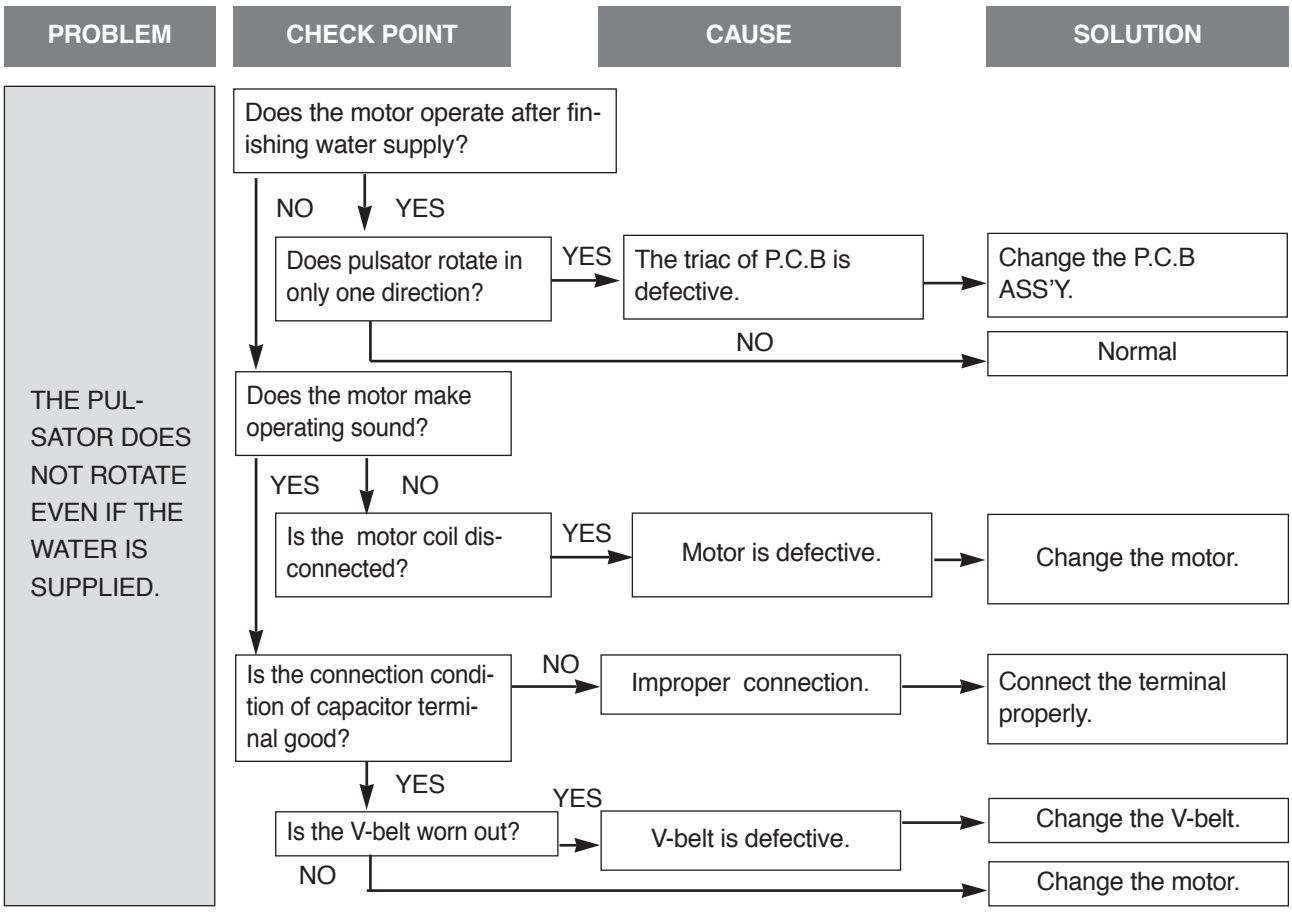
NOTE : Open the water tap fully and measure the flow rate.

Flow rate(ℓ /min.)	11.5	15.0	18.0	20.3	24.1	27.4
Water pressure (kgf/cm²)	0.3	0.4	0.5	0.6	0.8	1.0

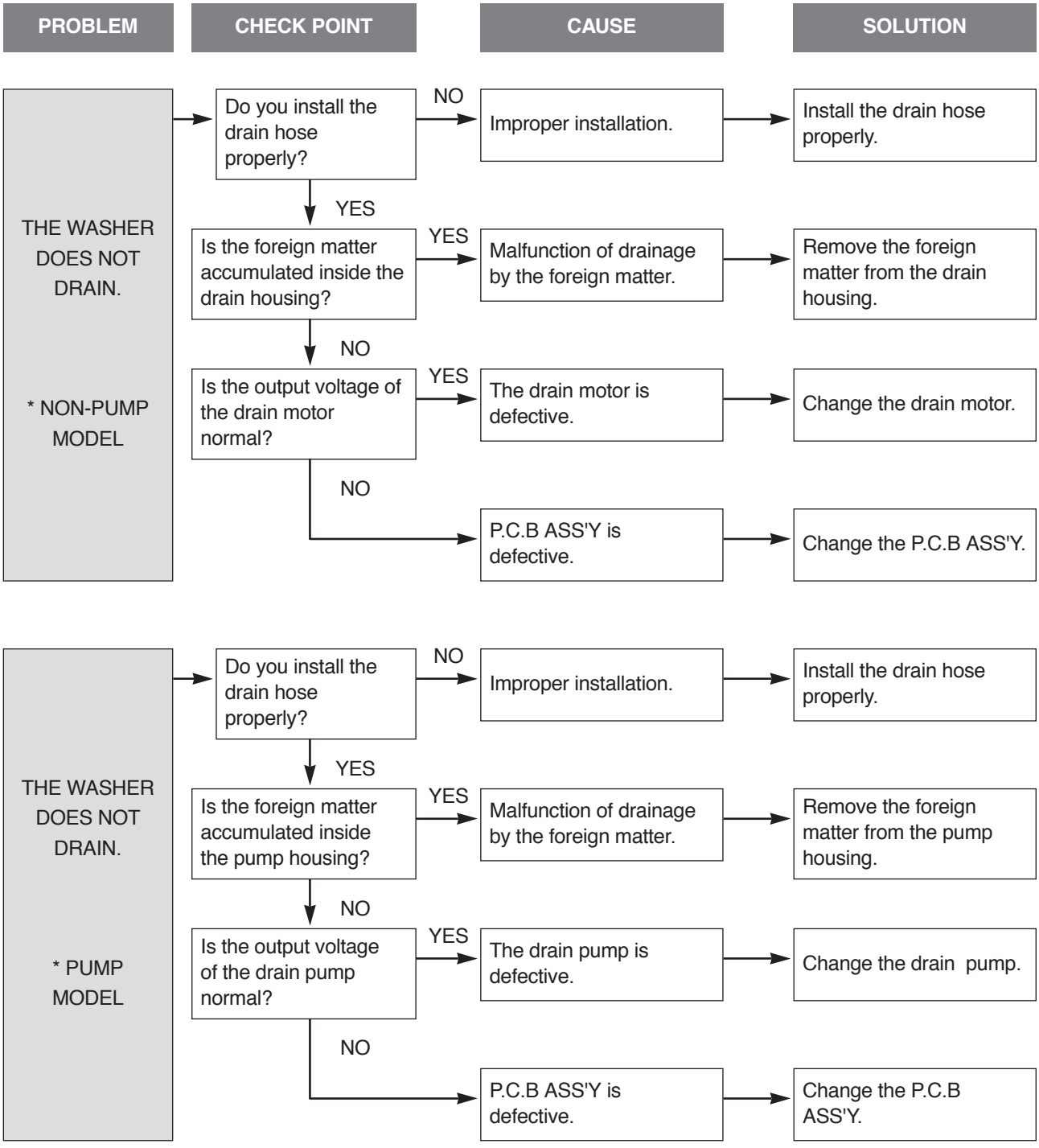
From the upper results, you know that the flow rate more than 11.5 ℓ /min. is essential for water supply.


PROBLEM
CHECK POINT
CAUSE
SOLUTION
WATER SUP-PLY IS NOT STOPPED.
Does the water supply continue while the power is turned off?
YES
The water inlet valve is defective.
Change the water inlet valve.
NO
Does the water supply start as soon as you press the power switch?
YES
The triac of P.C.B is defective.
Change the P.C.B ASS'Y.
NO
Operate the washer after setting the water level to "HIGH"
Does the water supply continue after the water reaches to the "HIGH" level?
NO
Normal operation.
YES
Is the air tube of water level switch kinked or deformed?
YES
Air tube is defective.
Change the air tube.
NO
Pressure switch is defective.
Change the pressure switch.

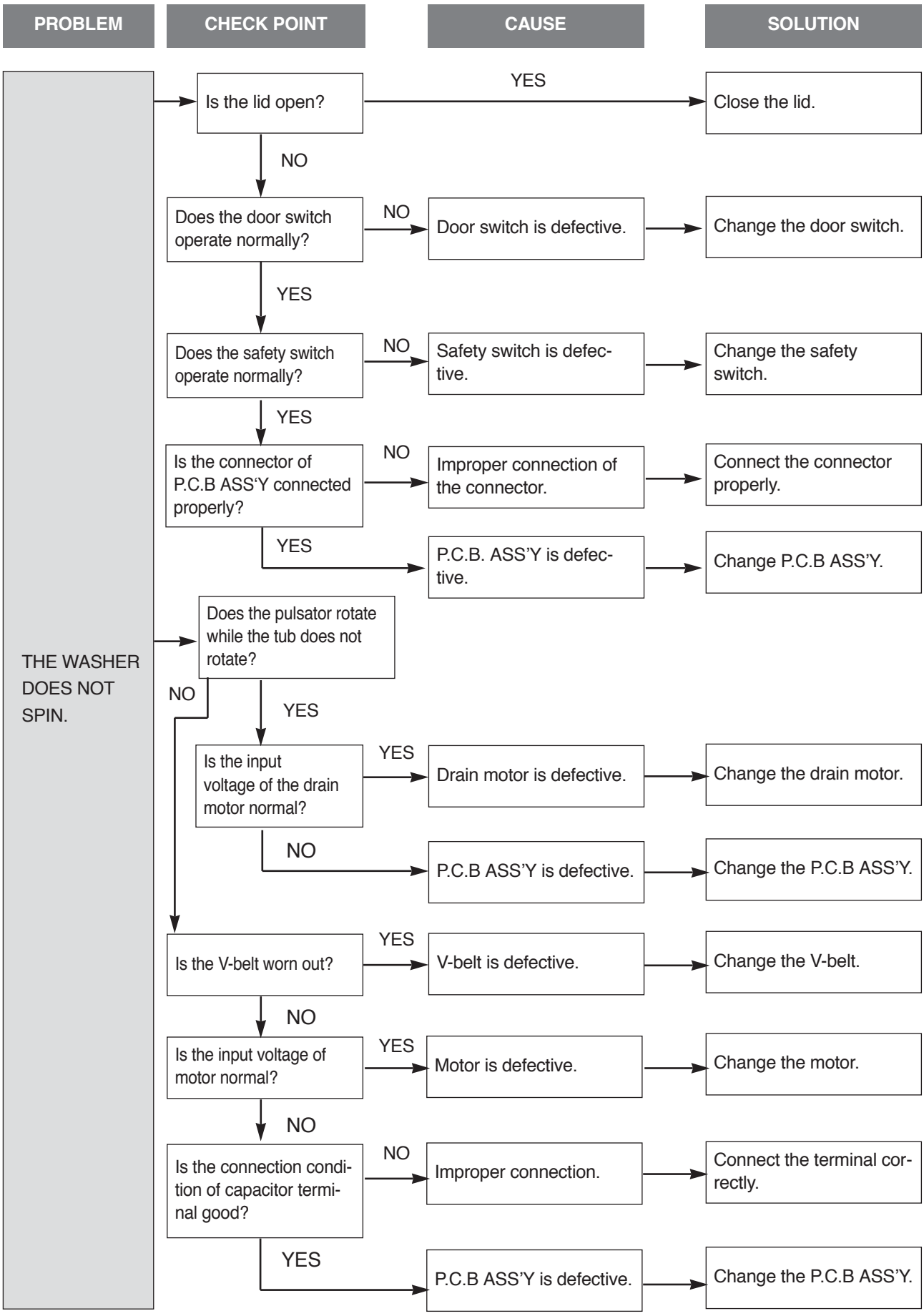
Concerning Washing



CONCERNING DRAINING



Concerning Spinning



Concerning Operating

PROBLEM	CHECK POINT	CAUSE	SOLUTION
THE INDICATOR LAMPS(L.E.D) DO NOT LIGHT UP WHEN THE POWER BUTTON IS PRESSED.	Is the plug connected to electric outlet?	NO	Connect the plug.
	Is Fuse opened?	YES	Change fuse.
	Is the condition of power button good?	NO → Power button is defective.	Change P.C.B ASS'Y.
	Is the connector of the P.C.B. ASS'Y connected properly?	NO → Improper connection of the connector.	Connect the connector properly.
	Is input voltage of the transformer normal?	NO → Transformer is defective.	Change P.C.B ASS'Y.
		YES → P.C.B. ASS'Y is defective.	Change P.C.B ASS'Y.
PROGRESS LAMPS(LED) DO NOT LIGHT UP.	Do you press START/HOLD button?	NO	Press START/HOLD button.
		YES → P.C.B ASS'Y is defective.	Replace P.C.B ASS'Y.
MOTOR ROTATES WHEN START/HOLD BUTTON IS NOT PRESSED.	Check the output voltage of P.C.B ASS'Y.	Abnormal → P.C.B ASS'Y is defective.	Change P.C.B ASS'Y.
ABNORMAL NOISE DURING WASH PROCESS.	Is the strange noise generated when the pulsator rotates in TEST MODE of P.C.B ASS'Y?	YES → There is foreign matter between pulsator and tub.	Remove the foreign matter.
	Is the V-belt worn out?	YES → V-belt is defective.	Change the V-belt.

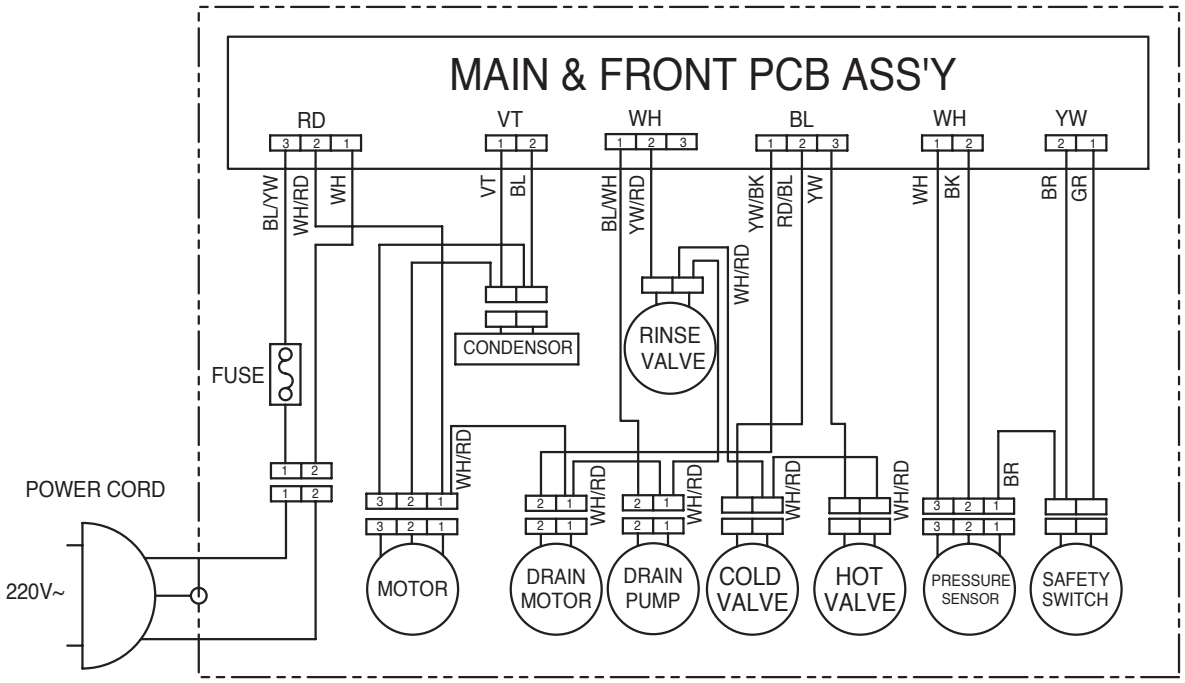
8. PRESENTATION OF THE P.C.B ASS'Y

Concerning Error Message

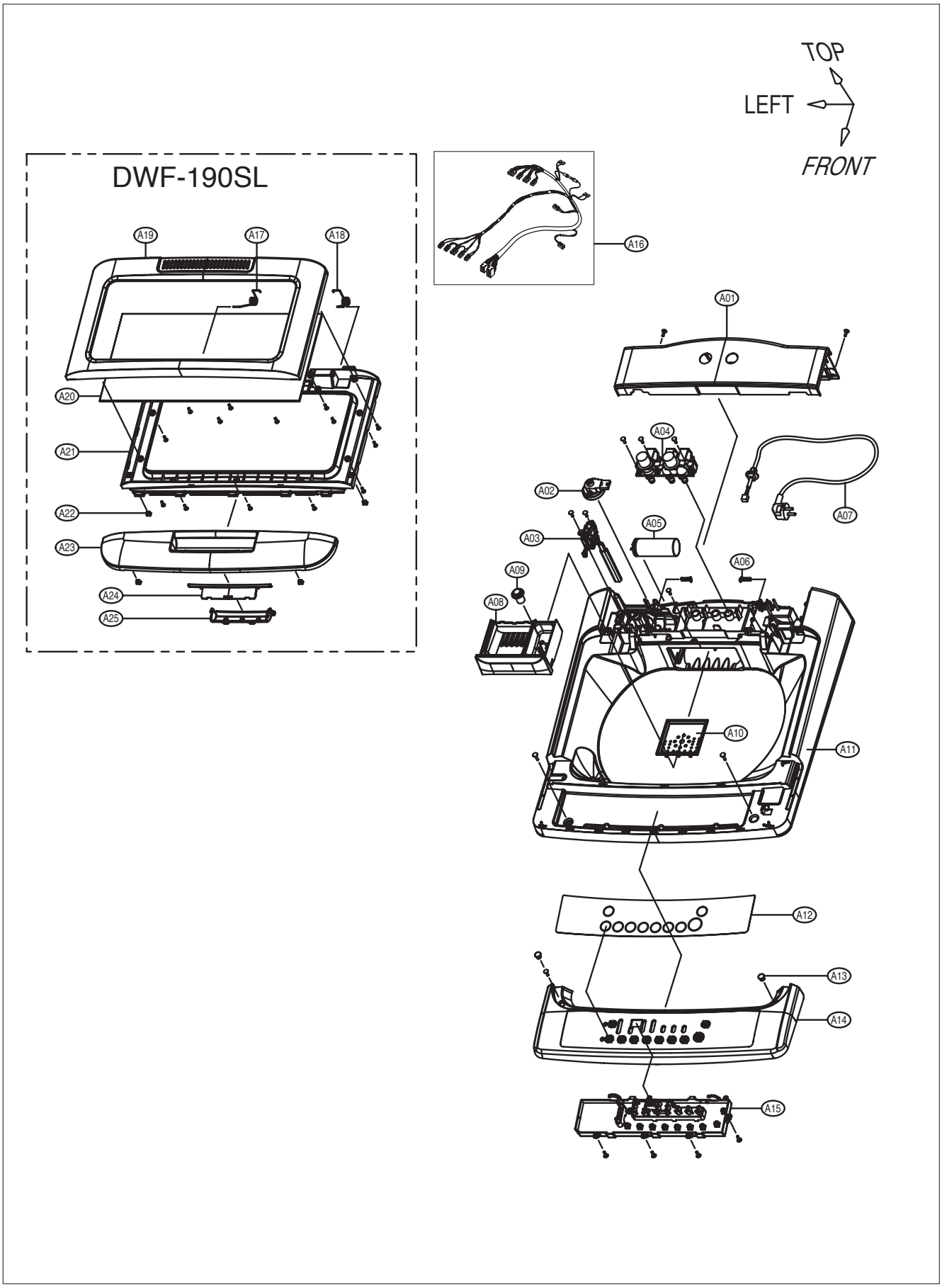
MESSAGE	CAUSE	SOLUTION
	Improper installation of drain hose.	Install drain hose properly.
	The drain hose is blocked up by foreign matter.	Remove foreign matter from drain hose.
	Drain motor or drain pump is inferior.	Change drain motor or drain pump.
	The water tap is closed.	Open the water tap.
	The water inlet filter clogged.	Clean the water inlet filter.
	It passes over the 60 minutes, yet it doesn't come to assigned water level.	Fully open the water tap and Check the water pressure.
	Wash loads get uneven during spin.	Re-set wash loads evenly.
	Poor installation of the unit.	Proper installation.
	The lid is opened.	Close the lid.
	The safety switch is inferior.	Change the safety switch.
	The load sensing is inferior. After the load sensing operates about 7 seconds, the message is displayed during 0.5 second and water level is always fixed 'high'.	Change the P.C.B. ASS'Y.
	The water level sensing is inferior.	Check the water level sensor and the contact part of the connector.

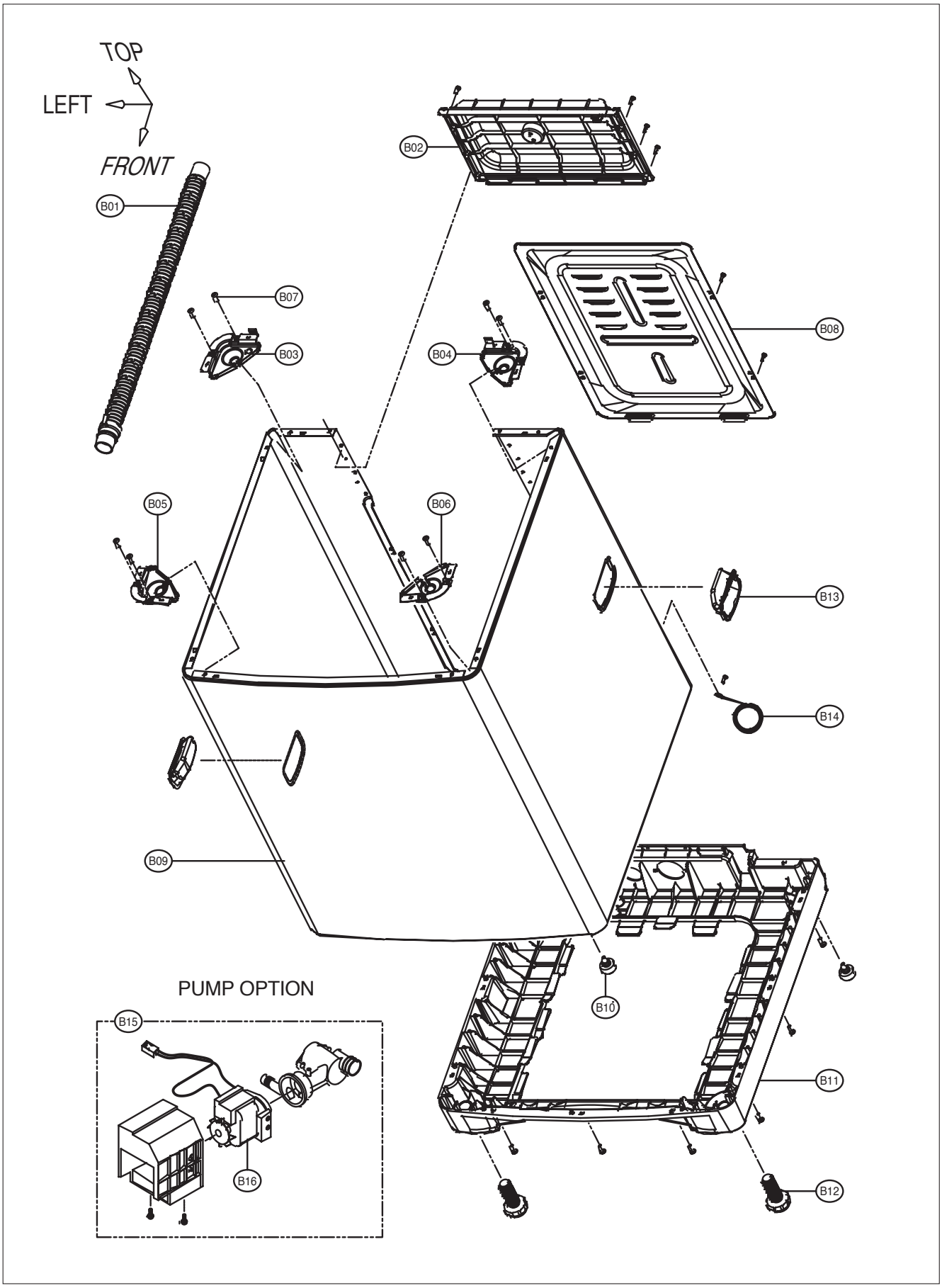
Wiring Diagram

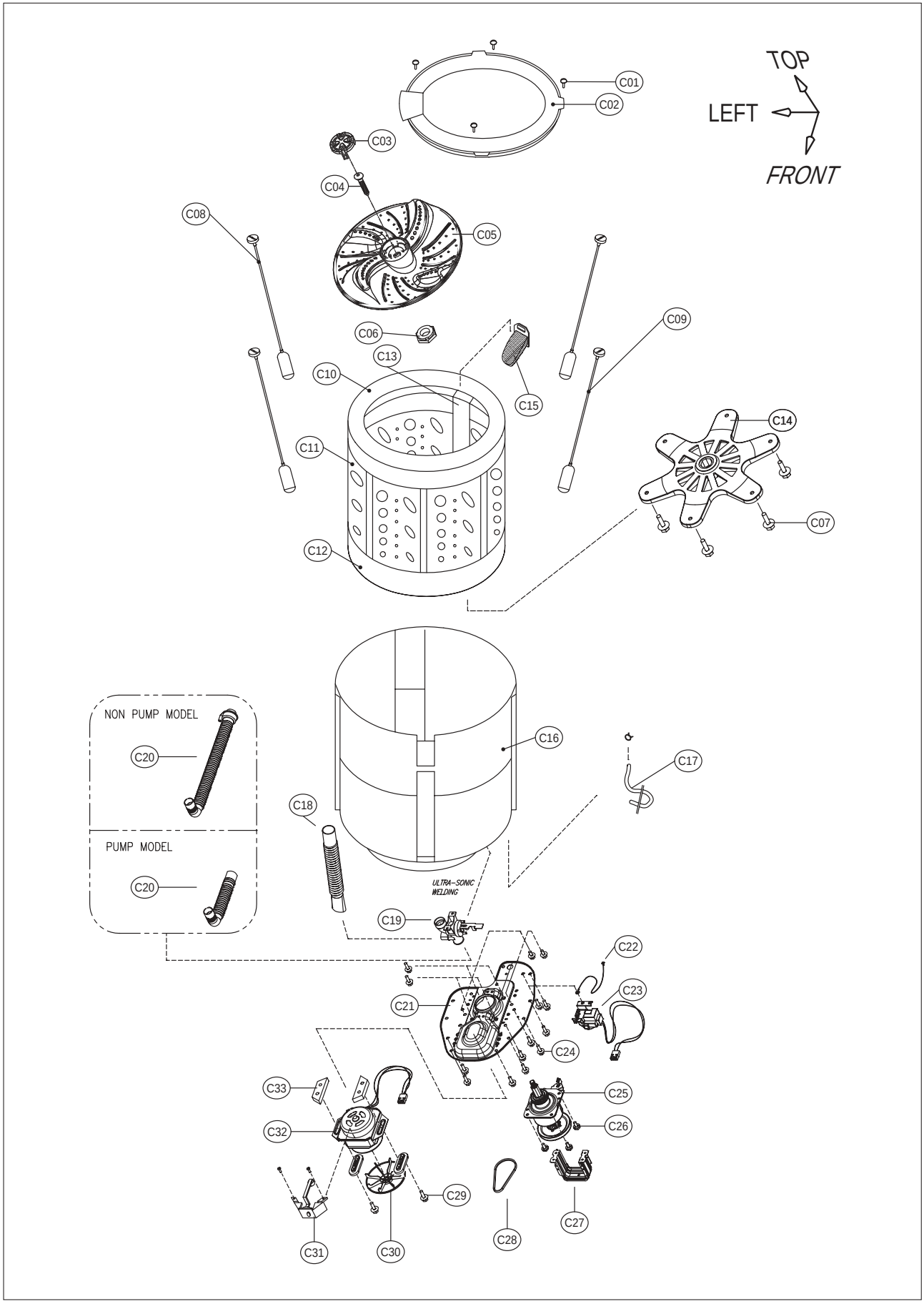
• **DWF-190SL (220V~, PUMP, COLD&HOT)**



Parts Diagram




TOP
LEFT
FRONT
B01
B02
B03
B04
B05
B06
B07
B08
B09
B10
B11
B12
B13
B14
PUMP OPTION
B15
B16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C28
C29
C30
C31
C32
C33
NON PUMP MODEL
PUMP MODEL
ULTRA-SONIC WELDING

Parts List

No.	PARTS NAME	PARTS CODE	DESCRIPTION	Q'TY	REMARK
A01	PANEL *B	36142T4600	DWF-200S, ABS	1	200S(MOLD)
		36142T4650	DWF-200S, ABS UV_BASE		200S(UV SPRAY)
A02	SENSOR PRESSURE AS	3614801635	CDL-15N-1,225DO,3PIN,L1=740,L2=90	1	
A03	SWITCH SAFETY AS	3619044180	SF-030A13,#187,CU/T=9,CU/L=110,L=174	1	DWD-F1X23
A04	VALVE INLET	3615416330	110-130/60,98'S,C+R,DR-12AS,GASKET	1	110V, C+R
		3615407131	AC220-240V/50,60HZ,35mA,C+H+R		220V, C+H+R
A05	UNIT CAPACITOR AS	3618912400	54UF 200VAC, CAN	1	110/60
		3618911200	11.4UF 400VAC, CAN TYPE		220/50, 220/60
A06	HINGE DOOR	3612902400	POLYACETAL	2	
A07	CORD POWER AS	3611341110	7A125V0.75SQ VCTFK TAIWAN LP-70 2.3M	1	110/60(TAIWAN)
		3611341F00	CHILE. 0.75X3 240H/260H		220/50(CHILE)
		3611339040	CP-2PIN 100H IEC 53(VCTF,H05VV-F) 3X0.75 1.9M GY		220/60(PERU)
A08	CASE DETERGENT	36111T3300	DWF-200S, ABS	1	200S(MOLD)
		36111T3350	DWF-200SM , ABS UV_BASE		200S(UV SPRAY)
A09	CAP SOFTENER	3610907800	PP	1	
A10	NOZZLE DETERGENT	3618112700	DWF-200SM, PP	1	200SL/SM/SW
A11	PLATE *T	3614543100	DWF-200S, ABS	1	200S(MOLD)
		3614543150	DWF-200SM, ABS, UV_BASE		200S(UV SPRAY)
A12	DECORATOR FILM	36116DW800	DWF-200SL, PET	1	200SL/SM/SW
A13	CAP SCREW	3610902600	CR	2	
A14	PANEL *F	36142T4700	DWF-200S, ABS	1	200S(MOLD)
		36142T4750	DWF-200S, ABS UV_BASE		200S(UV SPRAY)
A15	PCB AS	PRPSSWXC63	DWF-200SL, SMALL PCB, TAIWAN	1	110/60
		PRPSSWXC65	DWF-200SL, LARGE PCB, CHILE & PERU		220/50, 220/60
A16	HARNESS AS	3612797B60	DWF-200S 110V COLD,NON-PUMP	1	110/60,COLD,NON-PUMP
		3612797C10	DWF-200S 220V NON BB,COLD,HOT(PUMP)		220V,C+H,PUMP
A17	SPRING DOOR L	3615118900	DWF-200S	1	200SL/SM/SW
A18	SPRING DOOR R	3615119000	DWF-200S	1	200SL/SM/SW
A19	DOOR BACK *O	36117ADW00	DWF-200S, ABS	1	200SL(MOLD)
		36117ADW50	DWF-200SL,ABS UV_BASE		200SL(UV SPRAY)
A20	DOOR GLASS	36117AD030	GLASS,DWF-200S,492X238X4.0T,NAZCA	1	200SL
A21	DOOR BACK *I	36117ADX00	DWF-200SL, ABS	1	200SL
A22	CUSHION DOOR	3611559900	NR	2	
A23	HANDLE DOOR	3612614000	DWF-200SL, ABS	1	200SL(MOLD)
		3612614500	DWF-200SL,ABS, UV_BASE		200SL(UV SPRAY)
A24	DECO HANDLE	36116DW700	DWF-200SL, ABS GILDING	1	200SL(GILDING)
A25	COVER HANDLE	3611433100	DWF-200SL, ABS	1	200SL
A26	DOOR B	36117ADY00	DWF-200SM/SW, ABS	1	200SM/SW
A27	DOOR F	36117ADZ00	DWF-200SW, ABS-TR	1	200SW(ABS-TR)
			DWF-200SM, ABS		200SM(ABS)
A28	DECO DOOR F	36116DW900	DWF-200SM/SW, ABS	1	200SM/SW

No.	PARTS NAME	PARTS CODE	DESCRIPTION	Q'TY	REMARK
B01	HOSE DRAIN O AS	3613226700	L=1250mm, HANGER	1	NON-PUMP
	HOSE DRAIN OUTER AS	3613218800	LD-PE/EVA L=1600 PUMP		PUMP
B02	PLATE UPPER	3614514600	PP, 1094	1	
B03	SUPPORTER TUB BL	3615302220	SPG 1.6T(R-01)	1	
B04	SUPPORTER TUB BR	3615302320	SPG 1.6T(R-01)	1	
B05	SUPPORTER TUB FL	3615302420	SPG 1.6T(R-01)	1	
B06	SUPPORTER TUB FR	3615302520	SPG 1.6T(R-01)	1	
B07	SCREW TAPPING	7122501211	T2S TRS 5X12 MFZN	8	
B08	COVER BACK	3611413605	0.35T	1	
B09	CABINET AS	3610808011	PAINTING(0.6T)	1	PAINTING
	PCM CABINET	3610808532	PCM 0.6*803.4*2146.6		PCM
B10	FOOT	3612100330	BUTYL VE	2	
B11	BASE *U	3610310207	RECYCLING PP,100S	1	PUMP
B12	LEG ADJUST AS	3617702123	BUTYL FOOT, CONE SHAPE	2	
B13	HANDLE CABINET	3612603300	PP	2	
B14	OUTER EARTH AS	3610068700	50/0.18 GREEN, ST710489-2	1	OPTION
B15	UNIT DRAIN PUMP AS	361897409F	220V 60HZ,40W,#1806 D/L,L/W=1410	1	220/60
		36189L606D	HIGH/50HZ,B30-6,40W,L=1250,KET1806 BK,BOBBIN CUT		220-240/50
B16	UNIT DRAIN PUMP	36189L1401	220V/60HZ,AL 40W,L=1400,B30-5AYC	1	220/60
		36189M1400	220~240V,CU 40W,L=1400,BB CUT,B30-6		220-240/50

No.	PARTS NAME	PARTS CODE	DESCRIPTION	Q'TY	REMARK
C01	SCREW TAPPING	7122401611	T2S TRS 4X16 MFZN	4	
C02	COVER TUB *O	3611408500	PP	1	
C03	CAP PULSATOR	3610920500	PP, DWF-178W	1	178L/M/W, 179M/W
C04	SPECIAL SCREW	3616062629	STS430 6X26.5	1	
C05	PULSATOR AS	3619705804	DWF-178W, NANO SILVER	1	178L/M/W, 179M/W
C06	SPECIAL NUT	4507D83080	SUS 304	1	
C07	SPECIAL SCREW	3616007001	SCM24H,6.5*24 101S	6	
C08	SUSPENSION AS (B)	3619805700	BLACK SPRING,111	2	
C09	SUSPENSION AS (F)	3619805600	YELLOW SPRING,120	2	
C10	BALANCER AS	3616105500	850M	1	
C11	TUB *I	3618830700	SUS 0.4T, ONE PIECE, 170M	1	
C12	TUB *U	3618816101	PP-M/B	1	OPTION
		3618816113	PP 1620G		
C13	GUIDE FILTER AS	3612508300	850M,GUIDE-A(MEXICO)	2	
		3612508400	850M,GUIDE-B(MEXICO)	1	
C14	FLANGE TUB	3617200600	ALDC12 VE1,6POINT	1	
C15	FILTER AS	4505E82002	P.E(POLYESTER 90X120)INSE	2	
C16	TUB *O	3618802630	PP JI-370(8KG)	1	
C17	HOSE	4500D08210	ID=4.0 KOR	1	
C18	HOSE OVERFLOW	3613208901	PELD, L=280mm	1	NON-PUMP
C19	VALVE DRAIN AS	3615408400	1098,s VE TYPE	1	ONLY NON-PUMP
C20	HOSE DRAIN INNER AS	3613218510	LDPE+EVA L=210.5	1	NON-PUMP
	HOSE DRAIN *I	3613212120	EVA,L=184		PUMP
C21	BASE	3610387400	SECEN 2.0T	1	
C22	HARNESS EARTH INNER	3612757010	L=560MM	1	
C23	DRAIN MOTOR	36196TAN00	SV-MX7T22D 220V50/60HZ		220/50-60
C24	SPECIAL SCREW	3616007001	SCM24H,6.5*24 101S	16	
C25	GEAR MECHANISM	3617310400	GM-1000-YJ6P2	1	
C26	BOLT HEX	7341801511	6B-1 8*15 MFZN	4	
C27	PROTECTOR GEAR	3618301310	SBHG 1.2T	1	
C28	BELT V	3616590220	M20.5 AGING	1	60Hz
		3616590230	M21, AGING		50Hz
C29	BOLT HEX	7650802528	6B-1 8*25 PW(3*28) MFZN	2	
C30	PULLEY MOTOR AS	3618401400	M-TYPE(AL), DS=10 DP=48.5 60HZ	1	60Hz
		3618401420	M-TYPE(AL) DS=10 DP=53.0 50HZ		50Hz
C31	BODY BUBBLE AS	3610402931	104KR, HOSE L=2700MM	1	OPTION
C32	MOTOR CONDENSER	3964322107	Y-W2D50VA014 220V50HZ 1320L KET D/L	1	220/50
		396432230P	Y-W2D50UA021 220V60HZ 1320L KET D/L		220/60
C33	CUSHION DOWN	3611502700	POM(8MM)	2	

Sequence Chart

Division		Progress Time	FUZZY				ECONOMY		DELICATE			
			High	Mid	Low	Small	High/Mid	Low/Small	High	Mid		
WASH	Sensing	7 sec.	■	■	■	■						
	Water Inlet	4 min.	▮	▮			▮		▮	▮		
		2 min.	▮	▮	■	■	▮	■	▮	▮		
	Pre-Wash	60min.										
	Wash	18min.	▮									
		14min.	▮	▮								
		10min.	▮	▮	▮	▮						
		6min.	▮	▮	▮	▮	■	■	■	■		
RINSE	Drain	3 min.	■	■	■	■	■ 1min.	■ 1min.	■	■		
	Balance Spin	44sec.	■	■	■	■	■	■	■ 30s	■ 30s		
	Middle Spin	1min. 46sec.	▮	▮	▮	▮	▮	▮				
		20sec.	▮	▮	▮	▮	▮	▮	■ 20s	■ 20s		
	Natural Stop	1min. 30sec.	▮	▮	▮	▮	▮	▮				
		40sec.	▮	▮	▮	▮	▮	▮	■ 40s	■ 40s		
	Water Inlet	4 min.	▮	▮			▮		▮	▮		
		2 min.	▮	▮	■	■	▮	■	▮	▮		
	Rinse 1	3 min.	▮	▮								
		2 min.	▮	▮	■	■	■	■	■	■		
	Drain	3 min.	■	■	■	■			■	■		
	Balance Spin	44sec.	■	■	■	■			■ 30s	■ 30s		
	Middle Spin	1min. 46sec.	▮	▮	▮	▮						
		20sec.	▮	▮	▮	▮			■ 20s	■ 20s		
	Natural Stop	1min. 30sec.	▮	▮	▮	▮						
		20sec.	▮	▮	▮	▮			■ 40s	■ 40s		
	Water Inlet	4 min.	▮	▮					▮	▮		
		2 min.	▮	▮	■	■						
	Rinse 2	3 min.	▮	▮								
		2 min.	▮	▮	■	■			■	■		
SPIN	Drain	3 min.	■	■	■	■	■ 1min.	■ 1min.	■	■		
	Balance Spin	44sec.	■	■	■	■	■	■	■ 30s	■ 30s		
	Main Spin	9 min.										
		7 min.										
		5 min.	▮	▮								
		3 min.	▮	▮	▮	▮	▮	▮				
		1 min.	▮	▮	▮	▮	▮	▮	▮	▮		
		30sec.	▮	▮	▮	▮	▮	▮	▮	▮		
	Natural Stop	2min.	▮	▮	▮	▮						
		1min.	▮	▮	▮	▮	■	■	■	■		
Remained Time Display			61	57	43	43	27	23	38	38		

1. The drain time in ECONOMY course is 1 minute.
2. The '20s~40s' is the acronym for '20 seconds~40 seconds'.
3. The '1 min.~60 min.' is the acronym for '1 minute~60 minutes'.

Division		Progress Time	BLANKET				SPORTS WEAR				BABY CARE			
			High	Mid	Low	Small	High	Mid	Low	Small	High	Mid	Low	Small
WASH	Sensing	7 sec.												
	Water Inlet	4 min.	■	■			■	■			■	■		
		2 min.	■	■	■	■	■	■	■	■	■	■	■	■
	Wash	18min.	■	■	■	■								
		14min.	■	■	■	■	■	■	■	■				
		10min.	■	■	■	■	■	■	■	■	■	■	■	■
		6min.	■	■	■	■	■	■	■	■	■	■	■	■
RINSE	Drain	3 min.	■	■	■	■	■	■	■	■	■	■	■	■
	Balance Spin	44sec.	■	■	■	■	■	■	■	■	■60s	■60s	■60s	■60s
	Middle Spin	1min. 46sec.	■	■	■	■	■	■	■	■	■90s	■90s	■90s	■90s
		20sec.	■	■	■	■	■	■	■	■				
	Natural Stop	1min. 30sec.	■	■	■	■	■	■	■	■	■	■	■	■
	Water Inlet	4 min.	■	■			■	■			■	■		
		2 min.	■	■	■	■	■	■	■	■			■	■
	Rinse 1	3 min.	■	■	■	■	■	■	■	■				
		2 min.	■	■	■	■	■	■	■	■	■	■	■	■
	Drain	3 min.	■	■	■	■	■	■	■	■	■	■	■	■
	Balance Spin	44sec.	■	■	■	■	■	■	■	■	■60s	■60s	■60s	■60s
	Middle Spin	1min. 46sec.	■	■	■	■	■	■	■	■	■90s	■90s	■90s	■90s
		20sec.	■	■	■	■	■	■	■	■				
	Natural Stop	1min. 30sec.	■	■	■	■	■	■	■	■	■	■	■	■
	Water Inlet	4 min.	■	■			■	■			■	■		
		2 min.	■	■	■	■	■	■	■	■			■	■
	Rinse 2	3 min.	■	■	■	■	■	■	■	■				
		2 min.	■	■	■	■	■	■	■	■	■	■	■	■
SPIN	Drain	3 min.	■	■	■	■	■	■	■	■	■	■	■	■
	Balance Spin	44sec.	■	■	■	■	■	■	■	■	■60s	■60s	■60s	■60s
	Main Spin	9 min.												
		7 min.	■	■	■	■								
		5 min.	■	■	■	■	■	■	■	■				
		3 min.	■	■	■	■	■	■	■	■	■	■	■	■
		1 min.	■	■	■	■	■	■	■	■	■	■	■	■
		30sec.	■	■	■	■	■	■	■	■	■	■	■	■
	Natural Stop	2 min.	■	■	■	■	■	■	■	■	■	■	■	■
Remained Time Display			63	63	57	57	57	57	51	51	62	62	54	54

1. Default water level in BLANKET course is 'High'.
2. Time of water flow in BLANKET course is same condition regardless of water level.
3. The '60s~90s' is the acronym for '60 seconds~90 seconds'.
4. The '1 min.~18 min.' is the acronym for '1 minute~18 minutes'.

Division		Progress Time	TUB CLEANING				WASH for PERU							
			High				High	Mid	Low	Small				
WASH	Sensing	7 sec.					■	■	■	■				
	Water Inlet	4 min.	▮				▮	▮						
		2 min.	▮				▮	▮	■	■				
	Pre-Wash	60min.	▮											
		10min.	▮				■	■	■	■				
	Wash	18min.	▮				▮	▮	▮	▮				
		14min.	▮				▮	▮	▮	▮				
		10min.	▮				▮	▮	▮	▮				
		6min.	▮				▮	▮	▮	▮				
RINSE	Drain	3 min.	■				■	■	■	■				
	Balance Spin	44sec.	■				■	■	■	■				
	Middle Spin	1min. 46sec.	▮				▮	▮	▮	▮				
		20sec.	▮				▮	▮	▮	▮				
	Natural Stop	1min. 30sec.	■				■	■	■	■				
	Water Inlet	4 min.	▮				▮	▮						
		2 min.	▮				▮	▮	■	■				
	Rinse 1	3 min.	▮				▮	▮	▮	▮				
		2 min.	▮				▮	▮	▮	▮				
	Drain	3 min.	■				■	■	■	■				
	Balance Spin	44sec.	■				■	■	■	■				
	Middle Spin	1min. 46sec.	▮				▮	▮	▮	▮				
		20sec.	▮				▮	▮	▮	▮				
	Natural Stop	1min. 30sec.	■				■	■	■	■				
	Water Inlet	4 min.	▮				▮	▮						
		2 min.	▮				▮	▮	■	■				
	Rinse 2	3 min.	▮				▮	▮	▮	▮				
		2 min.	▮				▮	▮	▮	▮				
SPIN	Drain	3 min.	■				■	■	■	■				
	Balance Spin	44sec.	■				■	■	■	■				
	Main Spin	9 min.												
		7 min.					▮	▮	▮	▮				
		5 min.	▮				▮	▮	▮	▮				
		3 min.	▮				▮	▮	▮	▮				
		1 min.	▮				▮	▮	▮	▮				
		30sec.	▮				▮	▮	▮	▮				
	Natural Stop	2 min.	■				■	■	■	■				
Remained Time Display			120				73	73	67	67				

1. The 'min.' and 'sec.' is the acronym for 'minutes' and 'seconds'.

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서울 종로구 통의동
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	수출용 세탁기 (S/M)
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